

# Upper Yuba River Studies Program

## Purpose Statement

*To determine if the introduction of wild chinook salmon and steelhead trout to the Upper Yuba River watershed is biologically, environmentally, and socio-economically feasible over the long term.*

## AND YOUR CONSULTANTS ARE...

CALFED recently selected a team of consultants headed by CH2M HILL to provide engineering, environmental services, project management, and project facilitation and public outreach support to the Upper Yuba River Studies Program. The team will implement the feasibility studies to determine if introduction of wild chinook salmon and steelhead to the Upper Yuba River watershed is biologically, environmentally, and socio-economically feasible over the long term. The team's work will be integrated with related sediment and water quality studies currently being completed in the watershed by the U.S. Geological Survey (USGS).

The consultant selection process began in November with the release of a Request for Qualifications and ended in February with panel interviews of the three most qualified applicants. Selected UYRSP Work Group members and the Coordination Committee participated in the review and screening of the applications and the final interviews.

### Please Welcome...

Work Group members will recognize many familiar faces on the selected team, as some of the consultants were previously involved in the UYRSP process. The new faces on the Team will bring a fresh perspective that will benefit the UYRSP.

## TECHNICAL REVIEW PANEL RECOGNIZES WORK GROUP ACCOMPLISHMENTS

### CALFED Science Program

CALFED is committed to integrating sound science into every aspect of the Bay-Delta Program. CALFED, through its Science Program, is developing scientifically credible information to guide decisions and evaluate actions that are critical to its success. CALFED's Science Program established the following goals:

- Establish a body of knowledge that is unbiased, relevant, authoritative and integrated, while communicating that knowledge to the scientific community, agency managers, stakeholders, and the public
- Establish protocols and incorporate independent peer review into all program activities
- Develop science-based performance measures for each CALFED program

### Technical Panel Meetings - September 19 - 21



In keeping with the goals of CALFED Science Program, CALFED assembled a Technical Review Panel of leading scientists and engineers to provide an independent, unbiased, technical review of the UYRSP at three key points in the process. Panel members have expertise in the areas of fish biology and habitat, hydrology, sediment transport, flood

assessment, water supply, hydropower, and economics. (See page 6 for the Panel participants.)

CALFED asked the Panel to review the scopes of work for the UYRSP and provide input on several issues:

- Is the UYRSP Work Group asking the correct questions?
- Can the questions posed by the Work Group be answered within the desired time frame and with the resources available?
- What level of certainty and depth of analysis is needed in each of the issue areas for short-term and long-term decision making by CALFED?
- Share experience and "lessons learned" from similar projects.
- Provide ongoing reviews of scopes of work, study plans, and program results.

CALFED specifically asked the Panel not to comment on the future of Englebright Dam, advocate positions on matters that will be decided by CALFED, or answer the feasibility question posed in the UYRSP's mission statement.

The Technical Panel convened September 19-21, 2001 for their first review of the program. On the first day, Panel members toured the Yuba River watershed. They traveled by bus, houseboat, and helicopter, and were briefed on the region's gold mining history, geology, biology, hydrology, and economy by members of the Work Group.

On the second day, the Technical Committees briefed the Panel on specific aspects of each scope of work. The briefings were open to the public and stakeholders were invited to provide comment.

# SCOPES AND SUGGESTIONS

In Phase 2 of the Upper Yuba River Studies Program the project team, including technical consultants hired by CALFED and the staff of the U.S. Geological Survey, will complete studies that will help determine the feasibility of introducing wild chinook salmon and steelhead to the Upper Yuba River watershed. The UYRSP Technical Committees and Work Group developed study scopes in six issue areas. Several key questions are addressed by each study scope. Below is a brief description of each scope of work, the key questions addressed by each study, and selected examples of the Technical Review Panel's September 2001 recommendations. The full report of the Technical Review Panel is available at the Public Documents page of [www.upperryuba.com](http://www.upperryuba.com).



The Upper Yuba River Studies  
Program has its own web site at  
[www.upperryuba.com](http://www.upperryuba.com).

## Upstream and Downstream Habitat

The Upstream and Downstream Habitat study will include field investigations to evaluate conditions in the Upper Yuba watershed and the availability of suitable habitat. This work will include reviewing the life history and habitat requirements of wild chinook salmon and steelhead trout.

### Key questions:

- What are the life history and habitat requirements of Yuba River spring-run chinook salmon and steelhead?
- What is the existing and potential quality and quantity of habitat in the Upper Yuba River?
- What are the potential effects of the study options on fish habitat in the lower river?

### Technical Review Panel recommendations:

- Estimate the potential size of populations of chinook salmon and steelhead that could be established in the Upper Yuba River.



South Yuba River—1997 flood

## Water Quality

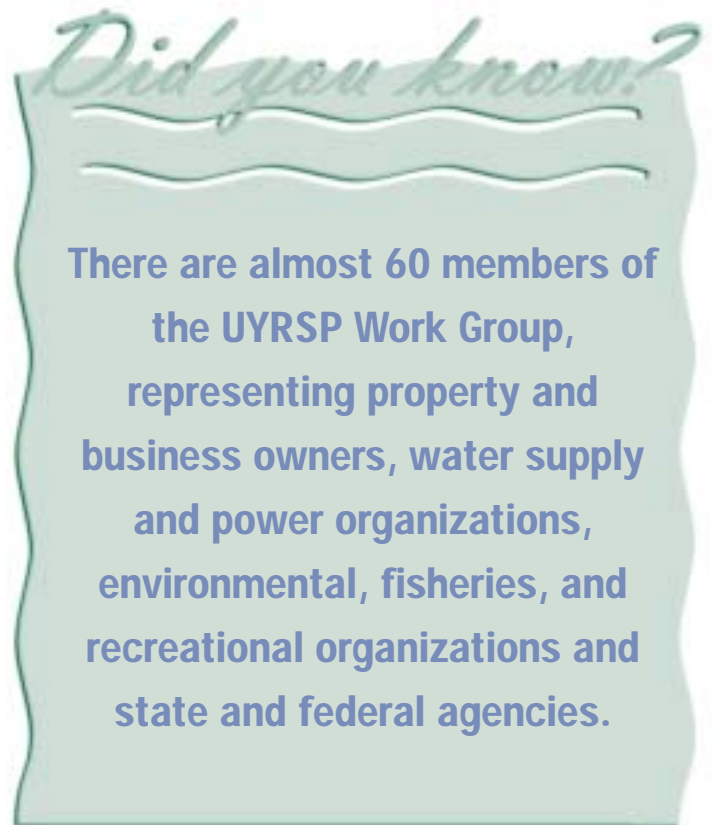
Historic gold mining activities have deposited sediment that contains mercury throughout the Yuba watershed. The Water Quality study will develop an understanding of the current level of mercury contamination within the reservoir and in upstream and downstream sediments. If contaminated sediment found in Englebright Lake is disturbed or eroded as part of the restoration program, it could present a threat to water quality downstream. The study will include water quality screening of Englebright Lake and the upper watershed and will characterize mercury bioaccumulation in resident fish.

### Key questions:

- How much mercury and methylmercury are stored in Englebright Lake sediments?
- What are the mercury levels in fish in the Yuba River watershed?
- What are the current loads into and out of Englebright Lake of mercury and other contaminants?
- What are the expected changes to water quality in Englebright Lake and downstream, given possible study options?

### Technical Review Panel recommendations:

- Design the fish creel survey with input from the Economics group, so that a travel-cost demand model can be applied to estimate angler recreational-use benefits.



There are almost 60 members of  
the UYRSP Work Group,  
representing property and  
business owners, water supply  
and power organizations,  
environmental, fisheries, and  
recreational organizations and  
state and federal agencies.



## Flood Risk Management

The Flood Risk Management analysis will provide information regarding flood risk implications of the various options. It is the goal of CALFED and the UYRSP not to increase flood risks to Yuba County and Sutter County communities downstream of Englebright Dam, regardless of which action, if any, is taken.

### *Key questions:*

- What are the potential impacts to flood risk on the Lower Yuba River of the four analysis scenarios: no action, decommissioning the dam, implementing new/alternative channels, or dry dam?
- Can potential increases in flood risk be mitigated relative to the no action scenario?

### *Technical Review Panel recommendations:*

- Define flood risk as “no net decrease in the level of flood protection.”
- Identify special information needs for flood calculations.

## Sediment

The Sediment study will provide a better understanding of existing sediment storage and transport conditions in the Upper Yuba River system and evaluate potential effects of implementing various options for fisheries enhancement. This study will characterize sediment composition and volume stored in Englebright Lake, identify existing sediment sources, and examine the effects of sediment transport downstream if the dam were removed, modified, or operated differently.

### *Key questions:*

- How is sediment supplied, transported, and stored in the Yuba River watershed? How does this change under varying hydrologic conditions?
- What components of sediment would be transported downstream if the dam were removed, modified, or operated differently?

### *Technical Review Panel recommendations:*

- Model grain size distribution under different transport processes.





## Water Supply and Hydropower

Initially, Water Supply and Hydropower operations were developed on the Yuba River to serve hydraulic mining. Today, the Upper Yuba River and Bear River contain a vast, intricate hydroelectric and water supply system. Implementing fish passage options at Englebright Dam might require changes in the operation of these facilities. The Water Supply and Hydropower study will evaluate the possible effects these changes might have on water supply, surface and groundwater resources, and potential changes in hydropower generation.

### *Key questions:*

- What are the potential impacts of implementing the study options to available water supplies and expected hydropower production?
- What measures could be used to mitigate potential impacts?

### *Technical Review Panel recommendations:*

- Begin modeling with an accurate representation of the current conditions and then evaluate achievable options.

## Economics

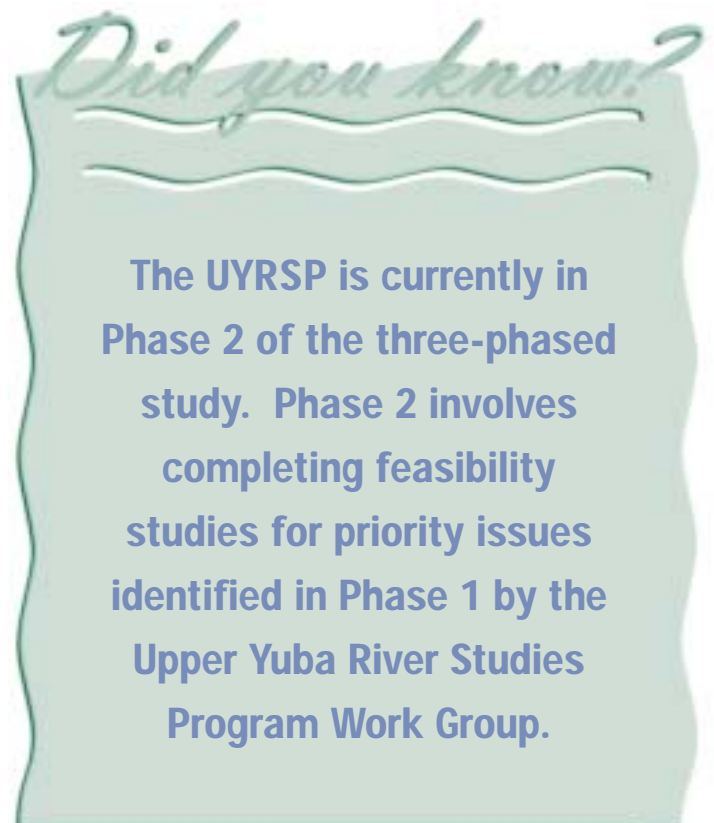
The Economics scope of work will evaluate the economic impact if actions are taken at Englebright Dam. The study will focus on potential adverse and beneficial changes to many sectors of the economy including timber, recreational opportunities, power generation, fish habitat, and listed species protection.

### *Key questions:*

- What are the economic impacts of implementation of the various study options?
- Would total program benefits equal total program costs?
- What groups would bear significant costs? What groups would receive significant benefits?
- How could costs be mitigated?

### *Technical Review Panel recommendations:*

- The economic analysis should follow and build upon the results of the Habitat, Water Quality, Hydropower, and other studies.
- Commonly used and agency-sanctioned procedures for economic analysis are available to estimate the economic benefits and costs, as well as the social impacts from the different river-management options.



The newly selected Study Team includes the following consultants:

**Project Management**

David Christophel CH2M HILL

**Public Outreach & Meeting Facilitation**

Charles Gardiner Public Affairs Management  
John Clerici Public Affairs Management  
Kristen LaVine Public Affairs Management

**Sediment**

Ed Wallace Northwest Hydraulic Consultants, Inc.  
Joseph Howard Northwest Hydraulic Consultants, Inc.  
Brad Hall Northwest Hydraulic Consultants, Inc.  
Mark Tompkins CH2M HILL

**Upstream & Downstream Habitat**

Tom Payne Thomas Payne and Associates  
Dave Vogel Natural Resource Scientists, Inc.  
Carl Mesick Carl Mesick Consultants  
Scott Wilcox Stillwater Sciences  
Tom Cannon HDR

**Curtains Up...**

CALFED is now in the process of negotiating a contract with CH2M HILL and the consultant team. CH2M HILL and PAM will work closely with USGS, CALFED, and the UYRSP Coordination Committee and Work Group this spring to ensure a strong foundation for the study program and a coordinated team effort. Through a chartering process, the team will develop communications protocols and project schedules, define roles and responsibilities, and set goals and expectations. The chartering process will result in a team-endorsed workplan that includes agreements, schedules, and detailed task orders for each scope of work.

**Break a Leg...**

Over three years of productive collaboration by the UYRSP Work Group has led up to this point. Field studies and data collection will begin this spring. Here's to a successful kick-off and completion of the study phase of the UYRSP!

**Water Quality**

Earl Byron CH2M HILL  
Brad Sample CH2M HILL  
Christine Arenal CH2M HILL

**Water Supply**

Gwen Buchholz CH2M HILL  
Rob Tull CH2M HILL

**Flood Risk**

Mike Harvey Mussetter Engineering, Inc.  
Betty Andrews Phillip Williams Associates  
Joe Countryman MBK Engineers

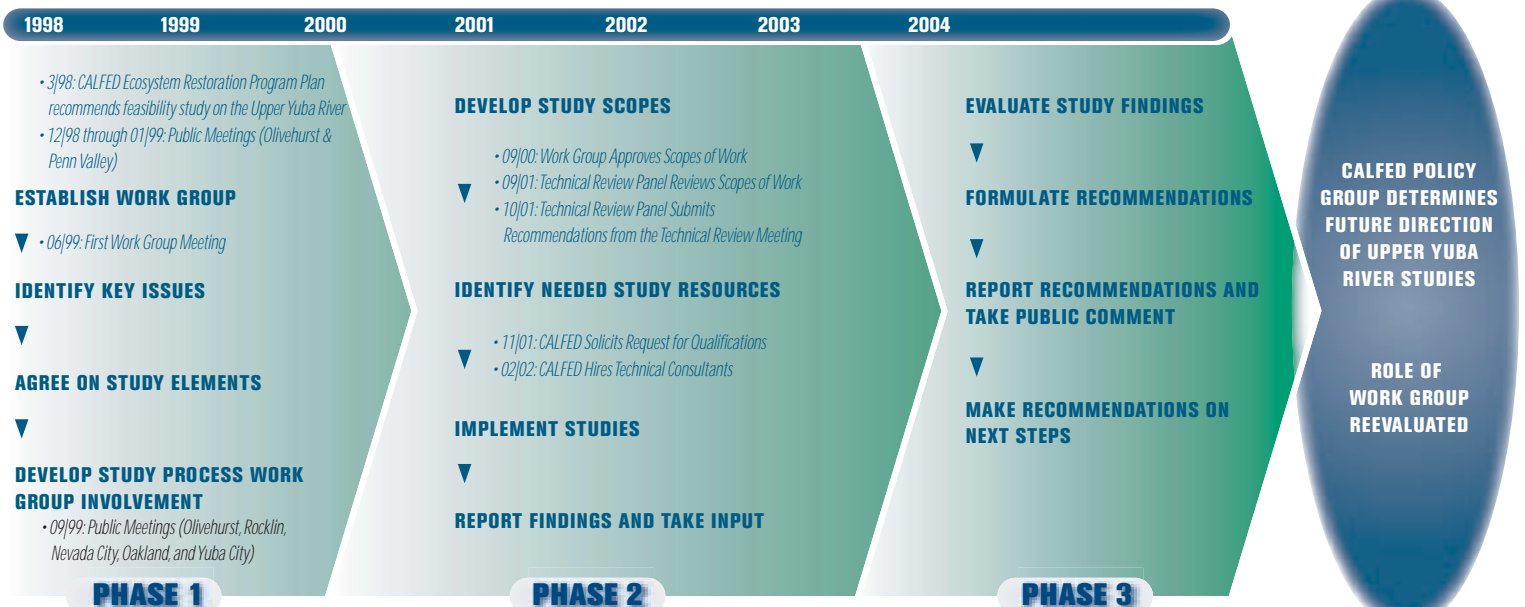
**Economics**

Allan Highstreet CH2M HILL  
Roger Mann RMEcon  
Thomas Wegge TCW Economics  
Steve Hatchett Western Resources Economics



PG&E Company's Narrows Powerhouse

Look for announcements of upcoming UYRSP Work Group meetings on [www.upperyuba.com](http://www.upperyuba.com)



The Panel provided their comments on the proposed scopes of work on the third and final day of the review.

### The Technical Panel Commends the UYRSP Work Group

The Technical Review Panel gave participants in the UYRSP high marks for their accomplishments to date. The Panel commended the Work Group for their cooperation, open communication, and constructive participation in preparing the scopes of work, but cautioned that there was more work to do before reliable, scientifically credible results could be produced during the study phase of the UYRSP. The Panel was impressed by the complexity of the Work Group's undertaking, but had concerns that the Work Group had underestimated both the time and resources needed to deliver the scientific evaluations represented by the scopes of work.

### Technical Committee Response

A week after the Technical Review Panel meeting, the Technical Committees of the UYRSP met to discuss the Panel recommendations and determine what, if any, actions would be required to incorporate the Panel's comments into the scopes of work. Committee members reviewed the recommendations for each scope and determined whether to include the recommendations into the final work plan or defer the recommendations for a later phase of the project.

A number of the Panel's comments on the scopes of work appear on pages 2-4. The full Technical Panel Report and the Technical Committees response can be found on the UYRSP web site at [www.upperyuba.com](http://www.upperyuba.com).

### Technical Review Panel

James G. Wiener, Ph.D. — Chair, Technical Review Panel

*University of Wisconsin, LaCrosse*

Gordon E. Grant, Ph.D.

*USDA Forest Service/Oregon State University*

R.A. "Drew" Bodaly, Ph.D.

*Freshwater Institute*

L. Allan James, Ph.D.

*University of South Carolina*

John B. Loomis, Ph.D.

*Colorado State University*

Michael C. Quick, Ph.D., P.E.

*University of British Columbia*

John J. Devine, P.E.

*Duke Engineering and Services*

Dan Huppert, Ph.D.

*University of Washington*

Samuel N. Luoma, Ph.D. — Liaison, Technical Review Panel

*CALFED Bay-Delta Program*

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<http://calfed.ca.gov/>  
<http://www.upperyuba.com/>

phone: (916) 657-2666  
fax: (916) 654-9780

Room 1155  
1416 Ninth Street  
Sacramento, CA 95814

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